

CHAPTER SEVEN

Conclusions, Suggestions and Recommendations

Detailed investigation of previous studies expresses availability of few researches to probe working capital management efficiency, especially its components (Accounts collection period, Inventory conversion period, Accounts payable period and Cash conversion cycle) and its relationship with firm's profitability (Return on Assets). This study investigated on public iron and steel manufacturing companies of West Bengal in somewhat distinct approach by comparing working capital components among the selected companies by using a sample of three giant manufacturing iron and steel units under Steel Authority of India Limited (SAIL) covering a period of twelve years i.e., 2001-2013. The study adopted multi-dimensional methods in analyzing secondary data for determining working capital management efficiency and its association with profitability to test the research questions.

7.1 Conclusion

Analysis is carried out on four variables, namely, ACP, ICP, APP, and CCC (elements of working capital management) of selected iron and steel companies by using sample average and industrial average as measures of working capital management efficiency. Results are obtained using well known accounting tool i.e., ratio analysis, One-way ANOVA, Post hoc test (Games Howell), and Pearson correlation. The study used ratio analysis to determine company wise as well as overall working capital management efficiency. ANOVA is used to test significant mean difference among the selected firms. Thereafter, Post hoc test (Games Howell) is applied on the variable found having significant mean differences among the selected companies. Association between ROA and independent variables of working capital management is assessed by Pearson correlation.

Working capital management component's ratio analysis results based on industrial average of ACP, the firm ASP is found to be less efficient in managing outstanding collection from debtors whereas the other two firms i.e., DSP and IISCO could collect dues from customers in an organized way and are, therefore, considered more efficient in terms of collection policy. However, DSP is comparatively more efficient in managing ACP than IISCO, as its accounts collection period is measured to be 2.67 days which is shorter than IISCO's accounts collection period of 10.96 days or approximately 11 days. The results reveal that there is statistically significant mean score difference between DSP and ASP (p value is .000, which is significant at 5 percent level.) and insignificant mean difference between DSP and IISCO (p value is .157) at 5 percent level.

On the basis of Inventory Conversion Period, the firm ASP is found to be inefficient in converting the stock into sale as it holds inventory for a longer period of time i.e. average of 154 days which is more than the industrial average. On the opposite, the other two firms (DSP & IISCO) are efficient in managing its inventory conversion period whose mean (76.08 and 59.17 days respectively) inventory conversion period is below the industrial average (IA). Considering statistical mean difference as found between DSP and IISCO at 5 percent level shows that IISCO is better in managing inventory by taking lesser number of days (59.17 days) for conversion than that of DSP.

About payment policy, IISCO is considered inefficient in paying off dues to suppliers or creditors as taking more number of days (117.53) than the industrial yardstick. Firms DSP and ASP are competent in making payment to creditors by taking less number of days compared to industrial standard. The study reveals statistical results that point out that there is significant

mean difference in accounts payable period (APP in days) between DSP and ASP. It shows that the firm DSP is satisfactorily maintaining its accounts payable period in comparison to ASP.

With regard to cash conversion cycle (CCC), the firm IISCO is satisfactorily managing CCC as compared to industrial yardstick, whereas the other two firms DSP and ASP are inefficient in converting inventory into sales realization. Both the firms are taking more number of days in sales realization as compared to industrial benchmark. Multiple comparisons test results show that there is statistically significant mean difference among the selected firms; it suggests that out of three companies in the study, the firm ASP keeps the funds in trade blocked for more number of days or in other words, it appears to be unsatisfactorily managing its CCC when compared to DSP and IISCO.

Overall, ratio analysis and industrial benchmark comparison results show that two working capital management variables (ICP and CCC) have not been satisfactorily or efficiently managed by the selected firms in the study and the rest two (ACP and APP) are being maintained by the firms successfully keeping them at a lower level than the industrial average.

The nature and degree of association between working capital management and profitability have been judged through correlation coefficient between selected measures of working capital management (ACP, ICP, APP, and CCC) and firm's performance (ROA) by drawing profitability-working capital management matrix with the help of Pearson correlation analysis.

The results of the analysis are:

- (i) A negative correlation between ACP and ROA (Tables 6.17, 6.18, and 6.19) is found in two out of three selected firms but the negative association is found to be significant at 5 percent level in one firm only. Correlation between these two selected variables is positive and insignificant as found in the third firm. Generally, there is a

rule of thumb that lower the accounts collection period, the higher the earnings. The results of this analysis are in support of the rule of thumb only in case of one firm. However, strong evidence in support of the rule is not found in case of the other two firms.

- (ii) In two out of three companies the relationship between ICP and ROA (Tables 6.17, 6.18, and 6.19) is positive and the association between these selected variables is found to be insignificant. A negative correlation between ICP and ROA is found in the third firm and the relationship between the two variables is found to be insignificant. Generally, holding of inventory for less number of days to increase the profitability is a sign of efficient inventory management. The correlation results in the selected companies under the study indicate a case of poor inventory management. All the three selected firms have not shown sign of efficient inventory management in improving earnings during the study period. Hence, no strong support or evidence of inventory management in improving profit in all the selected firms under the study was observed during the study period.
- (iii) The analysis of correlation between APP and ROA (Tables 6.17, 6.18, and 6.19) reflects that in two out of three companies the efficiency of accounts payable period management is positively correlated with ROA and the relation between the two selected variables is found to be significant in only one company. A negative and significant correlation between APP and ROA is found in one out of three firms. It is an accepted principle that in case of a firm, the shorter the accounts payable period, the higher is the profitability of the firm. The results of this analysis reveal that two out of three companies do not substantiate accepted principle of managing accounts

payable period. However, only in one firm the evidence of inverse relationship between APP and ROA is observed to be significant.

- (iv) A negative association between CCC and ROA (Tables 6.17, 6.18, and 6.19) is found in two out of the three firms and the relation between them is found to be insignificant in those two selected cases. The correlation analysis between CCC and ROA reveals a positive association in only one firm and the association is found to be significant. Theoretically, an inverse relation between CCC and ROA is highly desirable or favorable. The net outcome of this analysis or study indicates that a notable positive correlation between CCC and ROA is found to be significant only in one case. However, in two selected firms' negative association between the variables is observed to be insignificant. Thus, the result in the study does not support the theoretical argument (Quayyum, 2011) and (Bagchi and Khamrui,2012).

Based on the results of One way ANOVA and linear regression analysis it is found that the independent variable, accounts collection period (ACP) is significantly affecting the earnings of the selected companies. Accounts collection period of less than 27 days has significant impact on the ROA. 76% of the variation in the profitability is explained (Adjusted $R^2=76$ percent) by the accounts collection period. It supports the statement that companies collecting their dues in shorter period are able to improve their profitability position. Shorter collection period (in time unit, say, number of days) accredit cash promptly for the firms. This available cash could be used in making payment of business expenses on time to receive cash discount from the suppliers without depending on other expensive external borrowing. This finding corroborates with that of the studies conducted by some other authors (Deloof, 2003;Makori and Jagongo, 2013).

The result of the effect of CCC on the profitability (ROA) of all the selected manufacturing companies during the study period reveals that there is significant difference between ROA of the group of firms that are having CCC of less than 24 days and that of the group having CCC of more than 24 days. CCC of less than 24 days significantly affects the firms' profitability as tested by one way ANOVA (Table 6.21). The outcome of the linear regression analysis indicates that CCC has significant impact on the ROA; CCC accounted for 51.3% (Adjusted $R^2=51.3$ percent) fluctuation in the profitability. This implies that companies in the study could improve their earning position by shortening the cash conversion cycle. This finding is in line with the finding of the previous studies e.g. the one conducted by the academicians (Gill, Biger, and Mathur,2010).

To know if there is / are any other internal factor/s,excepting working capital management variables,which is / are responsible for low profit in the selected companies, we extended this study also to investigate into other quantitative variables i.e., efficiency ratios like Fixed Assets Turnover Ratio, Working Capital Turnover Ratio, Capital Employed Turnover Ratio, and Total Assets Turnover Ratios (FATR, WCTR, CETR, and TATR respectively) for all the selected firms. These ratios for the sample firms have been compared with the industrial average. On comparison, the following major outcomes could be identified:

1. The analysis of FATR (Table 6.22) reveals that one out of three selected companies could maintain the fixed assets turnover ratio at a level below the industrial average during the study period, while in other two companies, the mean value of FATR falls above than standard yardstick. It is observed that in two of the companies (ASP and IISCO), the activity of managing their fixed assets has been satisfactory during the study period.

2. Two out of the three selected samples companies (DSP and IISCO) have been unable to keep their WCTR (Table 6.23) at any level above the industrial average during the study period. In fact, the mean values of WCTR are found to be negative in the above two companies. In the other company (ASP), the mean value of WCTR is positive but recorded a value lower than the industrial benchmark. It indicates that all the selected companies have been incapable of keeping the WCTR above the benchmark.
3. On comparison with the mean of industrial benchmark, all the selected sample firms are found to be proficient in keeping their CETR above the respective satisfactory level during the study period. It points out that all the firms could decently employ their capital in improving the profitability.
4. In two out of three cases, the TATR is found to be maintained above the industrial average. In other words, these two firms (DSP and ASP) could manage to utilize their assets in an efficient manner by maintaining their TATR above the satisfactory level, but in the other firm (IISCO), the mean of TATR remains at a level below the industrial average. Thus, in comparison with the standard benchmark, the TATR's mean value is considered to be substantially better in two of the sample firms, it points to inefficient management of total assets in the other selected firm as the average value of TATR is not measured to be adequate.

In order to draw specific and concrete conclusion whether these efficiency ratios (FATR, WCTR, CETR, and TATR) have made or not any meaningful contribution in enhancing the profitability of the selected companies, we have extended the study to go beyond by application of Pearson's correlation analysis between the profitability and the efficiency ratios.

Based on the analysis of profitability and efficiency ratio relationship, the following relevant inferences can be drawn.

1. In two out of the three selected firms under study, the relationship (correlation coefficient) between FATR and ROA (Tables 6.26, 6.27, and 6.28) is found to be positive, out of which in one case, the positive correlation was found to be significant. However, in case of the rest of the firms, ROA is found to be inversely related with FATR and that negative correlation is, however, found to be insignificant. Theoretically, a positive association between FATR and ROA is vastly acceptable. The study results conform to the general guideline only in case of one of the firms under study. However, solid evidence in support of that conclusion is not evident in case of the other two selected firms.
2. A positive association between ROA and WCTR (Tables 6.26, 6.27, and 6.28) is found in two out of three selected firms but that positive correlation is not statistically significant in any of the cases. However, the association between these two variables is measured in negative value in case of the other firm and the same is analysed to be insignificant. Generally, it is believed that the higher the efficiency of working capital management the better is the profitability. The outcome of the analysis indicates that the value of correlation coefficient between WCTR and ROA does not attune to the general rule of thumb in case of all the selected sample firms.
3. A negative interrelationship between ROA and CETR (Tables 6.26, 6.27, and 6.28) is evident in two out of three selected sample firms and the revealed association between the two ratios is also not statistically significant in those two cases. However, in the other one case, CETR is evident to be inversely correlated with ROA and the relation between

the two ratios is again found to be insignificant. Generally, a positive relation between CETR and ROA is considered to be favourable in industries. The higher the CETR, the greater is the earning of the companies. The upshot of the study reveals that in all the selected sample units, the capital employed fails to make significant contribution in enhancing the profitability. The correlation coefficient results as extracted from the data analysis of the selected sample units are found to be not in conformity with the general consideration.

4. The association between ROA and TATR (Tables 6.26, 6.27, and 6.28) is tested to be positive in all the three selected firms. In one out of three sample units, that positive relation between these two variables is, however, found to be significant. In case of the remaining two firms, the profitability (ROA) is measured to be positively associated with TATR and is found to be insignificant. Theoretically, there should be a positive association between TATR and ROA. The correlation analysis results in case of all the selected sample units confirm or ratify the general statement. However, only in one company the strong clue of a positive link between these two variables is found to be significant.

All the three selected public sector iron and steel companies in West Bengal are the key players in the study area as the growth and the infrastructural development of the state and the country as a whole depends on these three large scale companies operating under SAIL. So, efficient management of their working capital is very much essential and crucial. The study emphasizes on working capital management efficiency and its relationship with the profitability. From the empirical evidence, the study has found that inventory conversion period and cash conversion cycle have not been managed at a symphony level in the selected companies. The companies

under study have, however, followed a tight accounts collection policy and have made delayed payments to suppliers. In other words, the other two components of working capital management i.e. the accounts collection period and the accounts payable period have been managed in an appropriately acceptable manner. Cash conversion cycle as a comprehensive measure of working capital is having a significant impact on the profitability. Inventory conversion period (ICP) and cash conversion cycle (CCC) are not the only reasons in improving earnings. The other factors that also require close attention of the management are working capital turnover ratio, fixed assets turnover ratio, and total assets turnover ratio. Maintaining these efficiency ratios (WCTR), (FATR), and (TATR) at the desired level in boosting up the revenues for the selected companies is appreciable.

7.2 Suggestions

On the basis of the above analysis, the study has given rise to the following suggestions for progress and prosperity of the selected manufacturing companies.

1. In order to strengthen the profitability of the selected companies, components of working capital (ACP and CCC) and working capital turnover ratio should be employed impressively.
2. Selected firms should reduce cash conversion cycle in order to convert sales into cash realization.
3. It has been observed that one of the selected company's (IISCO) profitability (i.e., ROA) is having no association with any of the components of working capital management. Therefore, it is suggested that each of the variables of WCM should be efficiently managed in relation to enhancement of earnings.

4. It has been observed that the inventory holding period of the selected companies are not satisfactory as these have gone above the benchmark level. Holding of inventory for a longer period leads to higher carrying cost which further leads to affect profitability adversely. Therefore, it is suggested that the companies should reduce the inventory holding period and exercise a suitable stock control methods to avoid the risk of over-stocking and / or under-stocking.
5. Short-term liabilities or current liabilities of the selected manufacturing companies have been traced to be very high in comparison to the investment in current assets; that may be one of the major causes of lower earnings. It is advised that the companies should minimize their short-term payables by resorting to planned short-term investment in other productive areas or trade securities in a manner such that the maturities of the payables match the maturities of the investments. This may help improve the profitability.
6. Apart from WCM variables, efficiency ratios, specifically, working capital turnover ratio and fixed assets turnover ratio should be managed efficiently or in other words, all types of assets, be it under fixed asset category or under current assets, need to be utilized more effectively and efficiently in order to maximize return on assets.

7.3 Recommendations

The recommendations of the study can in particular be deployed by financial professionals or experts as ground rule or mark for revamping financial conditions of the firms. Apart from it, these recommendations may also be valuable for adoption in general in other steel manufacturing companies operating under SAIL in different regions of India as sample units comprise only three major subsidiaries of SAIL operating in West Bengal. Imperative recommendations as retrieved from the study are:

1. The findings of the study are directly beneficial to steel manufacturing industries in chalking out firm's planning and improving upon their financial performance.
2. The study has been conducted under the umbrella of general financial management principles and policies. So, the study that has analyzed relevant data drawn from the selected subsidiaries of a company, "SAIL", located in West Bengal, may gainfully contribute to the fruitful application of the results and findings to improve the liquidity position of any commercial organization in general. Also the recommendations of this study are useful to financial planners and policy makers in formulating strategies with regard to working capital management policy in general i.e., policies with respect to accounts collection, inventory holding, cash conversion cycle, and payable to suppliers, in particular.

7.4 Limitations of the Study

1. Sample size is very small only three large scale public iron and steel manufacturing subsidiary companies operating in West Bengal under SAIL and does not include private iron and steel companies in the study area. So, no public-private comparison is there within the scope of the study.
2. The entire study is based on secondary data collected from published annual reports of the selected iron and steel companies.
3. Working capital management efficiency has been determined through ratio analysis which has its own limitations.
4. The study covered a period of twelve years only i.e., 2001-02 to 2012-13.

5. The present study is limited to the investigation on working capital management components and their relation with profitability. But other external economic factors such as inflation, competition, market, etc. have not been studied that could affect earnings of the selected firms.
6. The present study is limited to public sector engaged in iron and steel manufacturing companies only; further investigation may be conducted by taking into consideration other industries also.

7.5 Scope for further research

Foundation for further research should address the limitations of the study. In several ways, the present study could be extended for new researches in the following lines.

1. The study could be conducted further on working capital management by including both the public and the private iron and steel companies in west Bengal.
2. The study period was limited to twelve years only. Therefore, for better results it can be extended to twenty or more years in the next researches.
3. The present study examined only internal financial factors related to working capital management that affect financial performance. It can also be extended by inclusion of other external factors that may explain the financial performance of the companies in a better coverage.